
Some Indicators of Health-Related Behavior Among Adolescents in the United States

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THE BEHAVIOR OF CHILDREN AND ADOLESCENTS has been a matter of concern since antiquity. Each generation of adults seems to feel that the oncoming generation is rejecting the values of society and endangering the survival of its institutions.

During the past few years there has been a steady stream of comments on the behavior of adolescents. There have been stories and articles about the rising tide of violence, arrests, pregnancy, and drug use in both the popular and professional press leading one to believe that the majority, if not all of the adolescents in the United States, are engaging in behavior harmful to themselves or other people. As a result, there is pressure to "do something" to change the situation.

The knowledge that other generations have worried about youth should not be interpreted to mean that there is no reason for concern at present. Nor should the high level of comment during the past few years be interpreted to mean that something is radically wrong with American youth and something must be done at once. There is a need for perspective.

Before deciding what if anything should be done, it

is advisable to have baseline data, preferably for several points in time, to determine trends for a defined population. Fortunately, a number of agencies of the Federal Government collect or fund the collection of a great deal of data on various aspects of the behavior of adolescents in the United States.

The data are scattered in numerous government publications and journal articles dealing with substantive issues rather than with the population of interest, and they are not always tabulated and presented for the same age groups. Nevertheless, they exist and it is possible to make a reasonable assessment of some aspects of adolescent behavior. It is possible to begin to establish baselines.

Baseline data are essential for rational decision making about programs designed to change any current situation. First, there is the decision as to whether a program is needed. In the final analysis, that decision depends on the goals of society. It is possible that society will find even the rare occurrence of some events intolerable and the common occurrence of other events tolerable. It is nevertheless advisable to know how frequently each occurs.

Second, there is the evaluation of a program's effectiveness. It is not unusual for the proponents of a program to claim success because the level of the item of interest was "acceptably low or decreased after the program was instituted when, had they but looked, the level was just as low or had been declining before the program was started and had also decreased where there was no program. Nor is it unusual for the

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opponents of a program to claim failure because the level of the item of interest was "unacceptably high" or increased after the program was instituted when, had they but looked, the level was higher or had been increasing before the program began and increased at a more rapid rate where there was no program.

The purpose of this paper is to present such baseline data for selected indicators of health-related behavior among adolescents. The indicators were chosen from among many possible ones according to three criteria. First, they illuminate issues that are currently the subject of legislative and other public debate. Second, they illustrate aspects of behavior with a high probability of adverse health consequences. The role of behavior is the focus of many of the current strategies for health promotion and disease prevention (1). Third, they are based on national data that were tabulated or could be tabulated for the age group 12-17 years.

The ages 12-17 years are used to define adolescence for both conceptual and practical reasons. Conceptually, an adolescent can be defined as an individual who is biologically mature but has not yet attained full adult status (2). The beginning of adolescence is usually related to the onset of puberty. The end of adolescence is more difficult to specify, but it is related to the assumption of adult roles, responsibilities, and prerogatives. Few people attain sexual maturity before age 12, and few are not sexually mature by age 18. In the United States today adult roles, responsibilities, and prerogatives come at different ages for different people, but no one has the legal right to vote before age 18, which is also the usual age for having completed public school. Ages 12-17 are the junior and senior high school years for those who start first grade at age 6 and are promoted each year.

Practically, a considerable body of national data about the health of youths ages 12-17 years is already in the public domain. In 1966-70 a probability sample of almost 7,000 youths ages 12-17 were examined and interviewed in the third cycle of the Health Examination Survey conducted by the National Center for Health Statistics. Detailed data from that survey have been published, and the data tape can be purchased (3). The adolescent health survey in Harlem focused on the same age group, thus making comparable data available for a defined subnational population (4).

The Population at Risk

One reason that adolescents have attracted a great deal of attention in the past few years is that there have been so many of them. From 1954 through 1964 more than 4 million babies were born in the United

States each year. The number of babies born in 1961 was greater than the number in any year before or since then.

Those children of the baby boom have resulted in unprecedented numbers of adolescents in the early 1970s, but by the late 1970s their numbers were already starting to decrease (table 1). From 1972 through 1976 there were about 25 million youths ages 12-17 in the United States. By 1978 the number had declined to about 24 million. Population projections are for fewer than 23 million in 1980, fewer than 22 million in 1982, and a continuing decrease in numbers through the 1980s (5,6).

Thus, if there is no increase in the rate of any specified event or activity (such as the birth rate for adolescents or the percentage of adolescents smoking or drinking) or even if the rate remains constant, the number of adolescents involved will decrease from the current level. If there is an increase in the rate, the number of adolescents involved can increase, remain constant, or decrease, depending upon whether the rate increases more rapidly, at the same pace, or more slowly than the rate at which the population of adolescents is decreasing.

Substance Use

The majority of adolescents today have tried one or more substances by the time they finish high school, and the proportion of adolescents using marijuana, tobacco, or alcohol is higher than it was at the beginning of the decade.

Two national surveys funded by the National Institute on Drug Abuse provide data on recent trends and current levels of drug use among adolescents. The methodology and the populations included differ; thus the data are not strictly comparable. One is based on questionnaires filled out by seniors in a sample of high

Table 1. Number of adolescents (in thousands) ages 12-17 years, United States, 1970-84

Year	Total	12-15 years	16-17 years
1970	24,254	16,482	7,772
1972	24,873	16,808	8,065
1974	25,223	16,808	8,415
1976	24,968	16,573	8,395
1978	24,114	15,689	8,425
1980	22,737	14,580	8,157
1982	21,724	14,175	7,549
1984	21,267	14,211	7,056

SOURCE: References 5 and 6.

schools (7), the other on questionnaires filled out for interviewers in a sample of households (8). Because drug use is associated with dropping out of school and conventional family life, both surveys underestimate the actual level of drug use by failing to obtain information from adolescents who are not in school or living in households. Unless there has been a change in the propensity to drop out, however, the underestimation will be consistent over time and the time trends will not be affected.

The time trends will be affected, however, if there is an increase in the willingness to report illegal behavior. Such a change in reporting has been guarded against insofar as possible by maintaining strict confidentiality on both surveys, but whether such safeguards adequately protect cannot be measured. However, both surveys reveal similar changes in the use of both legal and illicit substances, and the changes in cigarette smoking are consistent with those reported by the National Clearinghouse on Smoking.

More than 90 percent of the high school class of 1977 had tried alcohol at least once, and 76 percent had tried cigarettes (7). Trying psychoactive drugs was not uncommon. Twenty-three percent of the class of 1977 had tried stimulants, 18 percent tranquilizers, and 17 percent had tried sedatives that were not ordered by a physician.

About 62 percent of the class of 1977 had tried one or more illicit drugs. The proportion of seniors who have tried an illicit drug has been increasing because of the appreciable rise in marijuana use. While 47 percent of the class of 1975 had tried marijuana, 56 percent of the class of 1977 had done so—a significant increase in 2 years. There was no change in the proportion using other illicit drugs—about 36 percent had tried hallucinogens, inhalants, opiates, or cocaine.

Having tried a substance does not indicate abuse, nor does it measure current use. The proportion who had used a substance within 30 days was much lower. Among members of the class of 1977, the proportions were still substantial, however; 71 percent had used alcohol, 38 percent cigarettes, and 35 percent marijuana, and about 9 percent had used stimulants without a physician's orders within 30 days of the survey.

One possible measure of abuse (because heavier levels of use are more likely to have detrimental effects) is daily or near daily use of a substance during the past 30 days. About 29 percent of the seniors smoked cigarettes daily, 6 percent reported daily use of alcohol, and 9 percent reported daily use of marijuana.

Levels of usage reported on the population-based survey (8) are somewhat lower than the levels reported by the seniors, but the relative ranking of substances and the change over time are similar. This survey also provides the opportunity of examining how the use of substances changes from early to late adolescence.

In 1977 about one-half of all adolescents ages 12–17 had tried alcohol or cigarettes and a quarter had tried marijuana (8). Less than 10 percent had tried one of the other substances (table 2). About 31 percent had used alcohol, 22 percent cigarettes, and 16 percent had used marijuana within 30 days of the survey. Less than 2 percent of the adolescents reported using any other substance within 30 days.

In 1977 current use of alcohol, cigarettes, and marijuana was higher among older adolescents, males, white adolescents, and those living in large metropolitan areas than among their counterparts.

Current use of alcohol increases sharply with increasing age, but there is no indication that levels of usage at any given age have increased over the 5 years 1972–77. The proportion of adolescents who are users, especially the younger ones and those in large metropolitan areas, may actually have declined somewhat from 1974 to 1977 (table 3).

Current use of cigarettes shows a similar pattern. The 16 and 17-year-olds were much more likely than the 12 and 13-year-olds to have smoked in the past month, but adolescents of any age were less likely to be smokers in 1977 than in 1974 (table 3).

In contrast, use of marijuana has continued to increase, especially among older adolescents. In 1971, 1974, and 1977, 10, 20, and 29 percent respectively, of the 16–17-year-olds had smoked marijuana within the month before the survey (table 4). The increases have been especially noteworthy among white youths and those living in large metropolitan areas.

If the trends noted in 1977 continue, it will not be long before more adolescents are using marijuana than nicotine, but daily use of nicotine appears likely to remain higher than daily use of marijuana if high school seniors are an indicator.

According to secondary school students in a National Institute of Education survey (9), beer, wine, and marijuana are widely available in the schools (the question was not asked about tobacco). Almost half of the students (47 percent) said that marijuana was easy to get at school, with 56 percent of the senior high school students in contrast with 29 percent of the junior high school students reporting marijuana easy to obtain.

Beer and wine were, according to the students, less available at school. Thirty-seven percent of the students said that beer or wine were easy to get; 45 percent of the senior and 21 percent of the junior high school students reported that alcohol was available.

The National Institute of Education report emphasizes that these are students' perceptions rather than objective data. Nevertheless, it is clear that students perceive the substances as available and that schools

in all kinds of areas—cities, suburbs, and rural areas—are affected.

It is not lack of information, per se, which leads adolescents to use these substances. For example, almost 90 percent of the adolescents believe that the information about smoking is true and that cigarette smoking can harm the health of teenagers. Even among smokers, more than three-quarters believe that smoking can harm the health of teenagers (10).

Table 2. Lifetime prevalence and recency of use of specified substances by adolescents ages 12–17 years, United States, 1977, in percentages

Substance	Ever used				Never used
	Total	Past month	Past year, not past month	Not past year	
Legal substances:					
Alcohol	52.6	31.2	16.3	5.0	46.5
Cigarettes	47.3	22.3	...	...	48.6
Illicit drugs:					
Marijuana or hashish or both	28.2	16.1	5.7	6.4	71.8
Inhalants	9.0	0.7	1.5	6.9	91.0
Hallucinogens	4.6	1.6	1.5	1.5	95.4
Cocaine	4.0	0.8	1.8	1.4	96.0
Heroin	1.1	0.0	0.6	0.7	98.9
Other opiates	¹ 6.1	0.6	2.8	2.3	¹ 92.8
Prescription drugs, nonmedical use:					
Stimulants	5.2	1.3	2.4	1.1	94.8
Sedatives	3.1	0.8	1.2	1.1	96.9
Tranquilizers	3.8	0.7	2.2	0.6	96.2

¹ Includes methadone. SOURCE: Reference 8.

Table 3. Current drinking and smoking among adolescents ages 12–17 years, United States, 1972–77, in percentages

Selected characteristics	Current drinkers ¹				Current smokers ²				
	1972	1974	1976	1977	1971	1972	1974	1976	1977
Total: youths 12–17 years	24	34	32.4	31.2	15	17	25	23.4	22.3
Age (years):									
12–13	16	19	19	13	5	4	13	11	10
14–15	21	32	31	28	17	16	25	20	22
16–17	35	51	47	52	23	32	38	39	35
Sex:									
Male	27	39	36	37	16	17	27	21	23
Female	21	29	29	25	14	17	24	26	22
Color:									
White	24	37	34	33	...	...	25	22	23
Other	19	21	23	23	...	...	26	28	18
Region:									
Northeast	28	44	42	35	18	16	27	22	24
South Central	28	33	38	35	14	19	27	24	26
South	15	21	21	24	9	17	22	25	20
West	28	46	32	36	22	16	27	21	19
Population density:									
Large metropolitan	24	44	38	36	16	16	27	25	25
Other metropolitan	28	27	33	30	15	19	22	22	23
Nonmetropolitan	20	28	26	27	14	16	27	24	19

¹ Defined as past 7 days in 1972, past month in later years.

² Defined as present time in 1971 and 1972, past month in later years.

SOURCE: Reference 8.

How then do they rationalize their behavior? Almost two-thirds of the smokers believe that it's okay to smoke if you quit before it becomes a habit, and one-third believe that teenagers who smoke regularly can quit any time they like.

While it is encouraging that adolescents believe that smoking can be harmful, it does appear to be futile to continue saying, "It is harmful. Don't do it." They know that. One can speculate whether the publicity about people quitting has helped adolescents rationalize by encouraging the belief that quitting is easy.

Encouraging a sense of personal responsibility for one's well-being might help adolescents make intelligent decisions about substance use, but that in no way reduces parental responsibility. Studies have shown repeatedly that adolescents are more likely to smoke or drink when parents do. Illicit drug use is more likely in families where various substances (not necessarily illicit ones) are used by their mothers or older siblings. And, it might be more difficult to obtain tranquilizers, stimulants, and sedatives if they were not available in the home.

The association between use of tobacco and premature disability or death in later life has now been

Table 4. Use of marijuana or hashish, or both, in past month among adolescents ages 12-17 years, according to selected characteristics, United States, 1971-77, in percentages

Selected characteristics	Use in past month				
	1971 ¹	1972 ¹	1974	1976	1977
Total: youths ages 12-17 years ...	6	7	11.6	12.4	16.1
Age (years):					
12-13	2	1	2	2	4
14-15	7	6	12	13	15
16-17	10	16	20	22	29
Sex:					
Male	7	9	12	14	19
Female	5	6	11	10	13
Color:					
White .....	..	8	12	12	17
Other .....	..	2	9	10	12
Region:					
Northeast	9	7	14	14	21
North Central	5	7	11	15	19
South	2	4	6	7	7
West	11	14	19	17	22
Population density:					
Large metropolitan ...	9	..	14	18	22
Other metropolitan ...	7	..	11	10	16
Nonmetropolitan	3	..	10	9	10

¹ Marijuana only. SOURCE: Reference 8.

documented by so many studies that it would take a separate paper merely to list them. The literature on alcohol use and health consequences is also extensive. Less is known about the association between marijuana use and health, at least partly because extensive marijuana use in the United States is a relatively recent phenomenon. The Institute of Medicine staff paper (1) mentioned previously contains bibliographies of studies on all three.

Of immediate concern, however, is whether use of the latter two is associated with other risk-taking behavior in adolescence such as having sexual intercourse without using contraception, reckless or inattentive driving, swimming or boating alone or in bad weather, or other risky kinds of behavior without safeguards.

Associations have been documented in special studies and the existence of some relationships can be inferred from national data, but as far as the author knows, there are no national data available that document associations among substance use and the various forms of risk-taking behavior among adolescents in the United States today.

Sexual Activity and its Consequences

Data from two national surveys funded by the National Institute of Child Health and Human Development provide data on the proportion of adolescent girls who have had sexual intercourse. There are no national data for boys.

Increasing proportions of unmarried adolescent girls have had intercourse, and they have had their first experience at a younger age. In 1971, 27 percent, and in 1976, 41 percent of the unmarried 17-year-old women reported that they had had sexual intercourse at least once—an increase of 54 percent in just 5 years (11). They were also more likely to have had more than one partner.

Moreover the percentage of 15-year-old girls who had had sexual intercourse at least once increased from 14 percent in 1971 to 18 percent in 1976. While the proportion of 15-year-old girls who have ever had sexual intercourse is still much lower for whites than for blacks (14 compared to 38 percent), the proportional increase over the 5 years has been much greater for white than for black girls.

Like substance use, having tried intercourse does not necessarily mean continuation. Of the unmarried 15-17-year-old girls who had had intercourse, 20 percent had done so only once. However, another 20 percent had had intercourse 3 times or more in the previous 4

weeks; 46 percent of these young women had had more than one partner.

If all other factors had remained the same, the substantial increase in the prevalence of sexual experience would have been expected to result in an increase in adolescent fertility. Instead, birth rates for the 15–17-year-old girls, which had been rising, have been declining steadily since 1972 (table 5). In that year there were almost 237,000 births to 15–17-year-old girls; the birth rate was 39.2 per 1,000. In 1976, with 215,000 births, the rate was 34.6 per 1,000.

The birth rate is still high among black adolescents. In 1976, there were 81.5 live births per 1,000 black women ages 15–17. However, that rate represents a

20 percent decrease from 1970, when there were 101.4 live births.

Babies are also born to girls who are not yet 15 themselves—almost 12,000 in 1976. They represent a very small proportion of all births, only 0.4 percent, but these young mothers are barely out of childhood themselves. They are not physiologically ready for pregnancy and the physical risk to the infant is enormously increased, to say nothing of the mother's psychological, economic, or educational unpreparedness for parenthood.

Concurrently, abortion rates have been increasing. The number of legal abortions reported to the Center for Disease Control increased each year from 1972 through 1976, and about one-third of the abortions

Table 5. Birth rates and distribution of births to women under 20 years, according to age and race of mother, United States, 1966–76

Race and year	Live births per 1 000 women			Cumulative percent of all births		
	10–14 years	15–17 years	18–19 years	Under 15 years	Under 18 years	Under 20 years
<i>Total</i> ¹						
1966	0.8	35.7	120.3	0.2	5.4	17.5
1967	0.9	35.3	116.7	0.2	5.6	17.2
1968	1.0	35.1	113.5	0.3	5.8	17.2
1969	1.0	35.7	112.4	0.3	5.9	17.1
1970	1.2	38.8	114.7	0.3	6.3	17.6
1971	1.1	38.3	105.6	0.3	6.7	18.0
1972	1.2	39.2	97.3	0.4	7.6	19.3
1973	1.3	38.9	91.8	0.4	8.0	19.7
1974	1.2	37.7	89.3	0.4	7.8	19.2
1975	1.3	36.6	85.7	0.4	7.6	18.9
1976	1.2	34.6	81.3	0.4	7.2	18.0
<i>White</i>						
1966	0.3	26.6	108.2	0.1	4.1	15.6
1967	0.3	25.7	104.0	0.1	4.1	15.0
1968	0.4	25.6	100.5	0.1	4.3	14.8
1969	0.4	26.4	99.2	0.1	4.4	14.6
1970	0.5	29.2	101.5	0.1	4.8	15.1
1971	0.5	28.6	92.4	0.1	5.1	15.4
1972	0.5	29.4	84.5	0.2	5.9	16.5
1973	0.6	29.5	79.6	0.2	6.2	16.8
1974	0.6	29.0	77.7	0.2	6.1	16.5
1975	0.6	28.3	74.4	0.2	6.0	16.3
1976	0.6	26.7	70.7	0.2	5.6	15.5
<i>Black</i>						
1966	4.2	97.9	219.2	1.0	12.6	27.8
1967	4.4	99.5	213.4	1.1	13.6	29.5
1968	4.7	98.2	206.1	1.2	14.3	30.9
1969	4.8	96.9	202.5	1.2	14.3	31.0
1970	5.2	101.4	204.9	1.3	14.7	31.3
1971	5.1	99.7	193.8	1.3	15.3	31.7
1972	5.1	99.9	181.7	1.4	16.9	33.8
1973	5.4	96.8	169.5	1.5	17.4	34.4
1974	5.0	91.0	162.0	1.4	16.8	33.9
1975	5.1	86.6	156.0	1.4	16.1	32.9
1976	4.7	81.5	146.0	1.3	15.2	31.2

¹ Includes all other races not shown separately.

SOURCE: National Center for Health Statistics, Division of Vital Statistics. Data are based on the national vital registration system.

each year have been for women under the age of 20. As the number of live births has decreased and the number of abortions has increased, the legal abortion ratio has increased even more rapidly. More adolescents under age 15 obtained legal abortions than had live births in 1976; about two-thirds as many adolescents ages 15–17 obtained abortions as had liveborn children (12).

Between 1971 and 1976, the surveys showed a dramatic increase in contraceptive use, in use of the most effective measures, and in more regular use of contraception by adolescent girls. Nevertheless, in 1976 only about one-third (35.8 percent) of the adolescent girls who had had intercourse used contraception the first time (13). The decline in birth rates in the face of increases in sexual activity appears to be due to an increase in the proportion of adolescent girls using contraception, thus keeping the pregnancy rate from rising, and to an increase in the proportion of pregnancies ending in abortion followed by contraceptive use after the young woman recognizes that she can become pregnant.

Among the teenagers who had had one premarital pregnancy and had not married, less than one-fourth had intended to become pregnant, yet only one-fifth of those who had not intended the pregnancy reported that they had been using contraception regularly to prevent it. The majority knew that pregnancy was possible, yet they and their partners did not consistently use contraception.

Pregnancy and childbirth among adolescents is a special concern because it affects the adolescent girl herself, sometimes the father, and it affects the offspring. The birth of a child to an adolescent can be hazardous for both mother and child. The young mother is not completely out of childhood herself, has probably not had an opportunity to complete high school, and seldom is prepared to care for herself or her child. For most young mothers, their lifetime options are reduced (14, 15). It is hazardous for the newborn child. The chance of surviving infancy is lower for infants born to adolescent mothers than to mothers of any other age, and the chances of physical defects are higher.

In 1976, when about 7 percent of all liveborn children were low-birth weight babies, the proportion was 15 percent if the mother was under age 15, and 11 percent if she was 15–17 years old.

The increased risk of low birth weight may be the single most important medical aspect of adolescent pregnancy. Studies (16, 17) have shown that the child weighing 2,500 grams or less at birth is 17–19 times

as likely as the child weighing more to die in the first year of life. Low birth weight is also associated with handicapping conditions, especially neurological ones (18). Risks of deafness and blindness are also higher (19, 20).

The social and economic consequences of early childbearing in the United States have been documented repeatedly. The age of a young woman at the birth of her first child has an important impact on the young woman's educational attainment, especially if the mother is still in high school at the time of the birth. The chance of her completing high school is small.

Teenage mothers have also been found to have higher subsequent fertility. Through its direct effect on educational attainment and on family size, age at first birth is indirectly related to family income and to poverty. Consequently, women who bear their first child as adolescents have a greater risk of poverty and welfare dependency. Nearly half of government expenditures through the Aid to Families with Dependent Children (AFDC) program went to households containing women who bore their first child while a teenager (personal communication from Kristin A. Moore of the Urban Institute, Washington, D.C., May 1978). More than three-fifths of women in the households receiving AFDC had their first child while a teenager. Thus, the economic and social consequences of adolescent childbearing are great, both for the individuals concerned and for society.

Sexually transmitted diseases are also adverse consequences of sexual activity, and they cannot be prevented by reliance on the pill or an IUD. Gonorrhea is the most common of the sexually transmitted diseases and by the mid-1970s had become epidemic; the case rate for 15–19-year-olds in 1975 was 12.9 per 1,000, 3 times that of 20 years earlier. Since then the rate seems to have stabilized (21).

Sexually transmitted diseases are rare among adolescents younger than 15 and more common among the 16- and 17-year-olds. The author's estimate (based on Center for Disease Control data corrected for underreporting) is that in 1976, 3 of every 1,000 younger adolescents and 20 out of every 1,000 older ones acquired gonorrhea. Other sexually transmitted diseases were less common (personal communication from Oscar G. Jones, statistician, Research Statistics Section, Venereal Disease Control Division, Center for Disease Control, May 1978).

In contrast with adult men and women, in adolescence gonorrhea is more common among girls than among boys. This pattern may reflect higher levels of

sexual activity among adolescent girls than boys; girls may have intercourse with boys and men older than they are. The health consequences for infected girls can be great. Gonorrhea is a more complex disease in females than in males, much more difficult to diagnose, and more likely to result in residual morbidity. It has been estimated that pelvic inflammatory disease occurs in 17 percent of all women who have gonorrhea (22) and that damage to the fallopian tubes from a single episode of adequately treated pelvic inflammatory disease results in sterility in from 15 to 40 percent of the cases.

Illness, Use of Medical Services, Death

According to data especially tabulated for this paper from data tapes of the National Center for Health Statistics (3), illness rates, use of medical services, and death rates are all low for adolescents. The acute respiratory illnesses and infections of childhood are past, and the chronic conditions of adulthood are in the future. Adolescents had, on the average, 2.4 acute conditions per year, 10.3 days during which activity was restricted, and 4.5 days in bed because of ill health, and they missed 4.8 days from school. Less than 5 percent were reported to be limited in activity because of health (4.7 percent) or were in poor or fair health (4.5 percent).

Table 6. Visits by adolescents ages 12-17 years to office-based physicians, according to principal diagnosis, age, and sex, United States, 1975-76

Sex and diagnosis	Total	12-15 years	16-17 years
<i>Physician visits per person per year</i>			
Both sexes	1.6	1.5	1.9
Males	1.5	1.5	1.5
Females	1.7	1.5	2.2
<i>Percent distribution by principal diagnosis</i>			
<i>Males</i>			
Total	100.0	100.0	100.0
Illness	60.6	61.9	58.3
Injury	16.8	16.3	17.7
Examination and observation	21.5	20.7	23.0
<i>Females</i>			
Total	100.0	100.0	100.0
Illness	69.1	71.2	66.5
Injury	8.2	9.0	7.2
Examination and observation	21.1	18.5	24.5
Prenatal	6.3	3.0	10.5

SOURCE: National Center for Health Statistics, National Ambulatory Medical Care Survey. Data are based on reporting by a sample of physicians in office-based practice.

Adolescents made, on the average, 1.6 visits to office-based physicians per year in 1975-76. (table 6). The majority of the visits were because of illness. However, 17 percent of the visits of adolescent boys ages 12-17 were because of injuries (in contrast with 11 percent for elementary school boys ages 6-11). Adolescent girls were much less likely (8 percent of the visits) to visit a physician because of an injury. However, 6 percent of the visits of adolescent girls ages 12-17 and 11 percent of the visits of those ages 16-17 were for prenatal care. Thus injuries and pregnancy, both results of behavior, account for a small but significant portion of the medical care adolescents receive from private physicians.

Adolescents were unlikely to be hospitalized. In 1975-76 there were 361 days of hospitalization for every 1,000 adolescents ages 12-17 (table 7). About 23 percent of the days adolescents spent in hospitals were due to injuries, and 13 percent were due to pregnancy and deliveries. Thirty-five percent of the days adolescent boys spent in the hospital were because of injuries. Thirteen percent of the time adolescent girls spent in the hospital was because of injuries; 18 percent was because of childbirth. Among younger boys ages 12-15, there were 89 days of hospitalization per 1,000 per year for injuries, and among older boys ages 16-17, there were 164 days per year. Among younger girls ages 12-15, there were 35 days of hospitalization per 1,000

Table 7. Hospital days for adolescents ages 12-17 years, according to principal diagnosis, age, and sex, United States, 1975-76

Sex and diagnosis	Total	12-15 years	16-17 years
<i>Hospital days per 1,000 persons per year</i>			
Both sexes	360.8	282.0	513.8
Males	330.1	278.9	428.7
Females	392.0	385.2	601.0
<i>Percent distribution by principal diagnosis</i>			
<i>Males</i>			
Total	100.0	100.0	100.0
Illness	64.5	67.6	60.6
Injury	34.7	31.9	38.2
Examination and observation	0.8	0.6	1.2
<i>Females</i>			
Total	100.0	100.0	100.0
Illness	86.7	84.1	89.1
Delivery	18.4	9.2	27.0
Injury	12.5	14.9	10.3
Examination and observation	0.8	1.0	0.6

SOURCE: National Center for Health Statistics, Hospital Discharge Survey. Data are based on reporting by a sample of hospitals.

per year for deliveries, and among older girls ages 16-17, there were 162 days per year.

Death rates are also low in adolescence. In 1976 there were 6 deaths per 10,000 youths ages 12-17 (table 8).

There is no question that the majority of deaths of adolescents are related to behavior. If one uses the simplest dichotomy, deaths caused by accidents and violence versus those caused by diseases and conditions, 70 percent of the deaths of youths ages 12-17 were from accidents or violence in 1976 (table 8). These deaths were certainly related to behavior. Because some of those attributed to diseases and conditions may also have been behavior related, 70 percent is probably a conservative estimate.

More adolescents died as a result of motor vehicle accidents than any other cause. Thirty-six percent of all adolescents ages 12-17 who died in 1976 died as a result of a motor vehicle accident. In contrast, 6 percent of the deaths were due to drowning, 5 percent were recorded as suicides, and 6.5 percent as homicides.

Table 8. Death rates among adolescents ages 12-17 years for all causes, accidents and violence, and diseases and conditions and percent of deaths due to selected specified causes, by age, United States, 1976

Cause of death	Total	12-15	16-17
		years	years
<i>Deaths per 10,000 persons</i>			
All causes	6.0	4.4	9.1
Accidents and violence..	4.2	2.7	7.0
Diseases and conditions.	1.8	1.6	2.1
<i>Percent of deaths due to specified cause</i>			
All causes	100.0	100.0	100.0
Accidents and violence..	69.9	62.5	76.8
Accidents	56.5	52.5	60.4
Motor vehicles	36.0	28.3	43.2
Fire and flames ...	1.6	2.2	1.0
Drowning	6.3	7.5	5.3
Suicide	5.4	4.0	6.7
Homicide	6.5	4.5	8.3
Diseases and conditions.	30.1	37.5	23.2
Neoplasms	8.9	11.2	6.8
Malignant neoplasms	8.4	10.5	6.5
Leukemia	3.2	4.3	2.1
Congenital anomalies.	2.5	3.4	1.6
Heart	1.3	1.7	0.8
Nervous system	3.3	4.1	2.6
Respiratory system ..	2.9	3.8	2.1
Pneumonia	1.8	2.3	1.3
Circulatory system ...	4.5	5.4	3.7
Infective and parasitic.	1.4	1.9	0.9

NOTE: Deaths are coded according to the Eighth Revision of the International Classification of Diseases Adapted for Use in the United States.

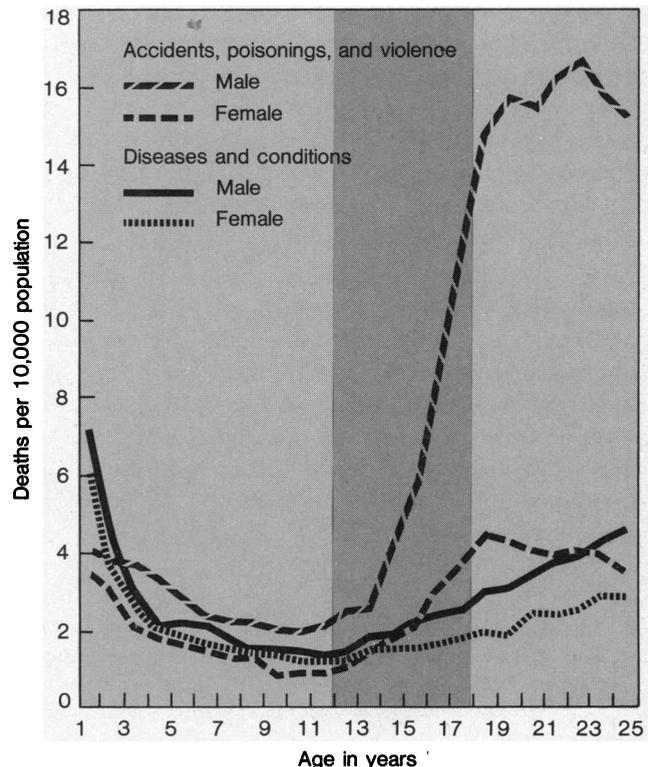
SOURCE: National Center for Health Statistics, Division of Vital Statistics. Data are based on the national vital registration system.

These three together account for only half as many deaths as motor vehicles. Only one condition, malignant neoplasms, was a major cause of death, accounting for a quarter as many deaths as motor vehicle accidents.

The chance of dying during adolescence is related to both age and sex with the differences between age-sex groups due primarily to differences in the death rates from accidents and violence. As can be seen in the chart, which shows death rates by single years of age for males and females, rates increase with age throughout adolescence, and the rates are consistently higher for males than for females. The differentials exist when only diseases and conditions are considered and the external causes are excluded. However, the differences are much greater when only the deaths due to accidents and violence are considered and the so-called natural causes are excluded. The greatest increase with age is in the death rate from accidents and violence for adolescent males.

Motor vehicle accidents are the single most important cause of death in adolescence. Death rates due to motor vehicle accidents are so much higher for young white males that they account for a large part of the differentials by age and sex and for the lack of any difference by race.

Death rates for children and young adults 1-24 years, by age, sex, and cause of death, United States, 1976



SOURCE: Division of Vital Statistics, National Center for Health Statistics

Conclusion

Although according to the conventional indicators the health of adolescents is good, many do engage in activities that increase the probability of either immediately adverse health consequences or of later disease or disability.

Among all adolescents ages 12–17, it is estimated that 53 percent have tried alcohol, 47 percent have tried tobacco, and 28 percent have tried marijuana. Twenty-eight percent of the girls have had intercourse at least once. As far as can be ascertained, the proportion using or having used alcohol and tobacco increased until the mid-1970s and has since leveled off. The proportion using marijuana and the proportion of girls who have had intercourse has continued to increase.

There are later health and social consequences from some of these activities. There can also be immediate consequences of risk-taking behavior. Intercourse, especially without use of contraception, can result in unwanted pregnancy. The increased use of contraception among adolescent girls has apparently kept the pregnancy rate from rising, and the birth rate among adolescent girls ages 15–17 has been decreasing since 1972.

Other kinds of behavior can result in injuries requiring medical care or in death. On any given day, about 35 percent of the adolescent boys and 13 percent of the girls who are in the hospital are there because of injuries. About 70 percent of all deaths of adolescents are due to accidents or violence; 36 percent are due to motor vehicle accidents. Homicide, drowning, and suicide each account for 5 to 6 percent of the deaths of adolescents. Only malignant neoplasms among all the diseases account for more deaths of adolescents (8 percent) than these 3 causes.

It is increasingly recognized that social, environmental, and behavioral factors are critical in promoting good health and preventing ill health. The behavioral factors are especially important for adolescents, since it is at this age that youths acquire the independence to make their own decisions about behavior and because most are in good health. If good health can be maintained into adulthood, the return to the individual and society can be great.

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